WHAT IS CLAIMED IS:

1. An armature of an electric rotating machine comprising:

an armature core including plural divided cores arranged in a circumferential direction;

a salient pole provided in each of the plural divided cores;

a coil winding wound around each salient pole;

a convex winding configuration of the coil winding formed so as to project on an adjacent salient pole side over a boundary line between adjacent divided cores; and

a concave winding configuration of the coil winding formed to be hollow from the boundary line so as not to interfere with the convex winding configuration.

2. The armature for an electric rotating machine according to claim 1, wherein the plural divided cores are formed in a separated structure such that the plural divided cores are divided in the circumferential direction by each salient pole.

3. The armature for an electric rotating machine according to claim 1, further comprising a laminated core which is formed of magnetic plates laminated in a thickness direction to form the plural divided cores, wherein the convex winding configuration is projected over the boundary line which passes through abutting surfaces of the plural divided cores.

4. The armature for an electric rotating machine according to claim 3, further comprising two types of winding configurations of the coil winding which are alternately different from each other for every adjacent divided core in the circumferential direction.

5. The armature for an electric rotating machine according to claim 4, wherein one of the two types of winding configurations of the coil winding is formed such that the convex winding configuration of the coil winding is on an inner side and the concave winding configuration is on an outer side and the other of the two types of winding configurations of the coil winding is formed such that the convex winding configuration of the coil winding is on the outer side and the concave winding configuration is on the inner side.

6. The armature for an electric rotating machine according to claim 5, wherein each coil winding is set to have a same number of turns for each of the plural divided cores.

7. The armature for an electric rotating machine according to claim 5, wherein a number of turns of the coil winding is alternately set to have a different number of turns for every adjacent divided core.

8. The armature for an electric rotating machine according to claim 1, wherein the boundary line extends to both circumferential end positions which are respectively located at an equal angle from a center line of the salient pole on both

sides in the circumferential direction, and the convex winding configuration projects on the adjacent divided core side over the boundary line and the concave winding configuration is hollow from the boundary line so as not to interfere with the convex winding configuration.

9. An electric rotating machine comprising:

an armature core including plural divided cores arranged in a circumferential direction;

a salient pole provided in each of the plural divided cores;

a coil winding wound around each salient pole;

a convex winding configuration of the coil winding formed so as to project on an adjacent salient pole side over a boundary line between the plural divided cores; and

a concave winding configuration of the coil winding formed to be hollow from the boundary line so as not to interfere with the convex winding configuration.

10. The electric rotating machine according to claim 9, further comprising a boundary line located between the plural divided cores which are adjacent to each other in a circumferential direction and extends to both circumferential end positions which are respectively located at an equal angle from a center line of the salient pole on both sides in the circumferential direction, wherein the convex winding configuration projects on the adjacent divided core side over the boundary line and the concave winding configuration is hollow from the boundary line so as not to interfere with the convex winding configuration.

11. The electric rotating machine according to claim 9, further comprising two types of winding configurations of the coil winding which are alternately different from each other for every adjacent divided core in the circumferential direction.

12. The electric rotating machine according to claim 11, wherein one of the two types of winding configurations of the coil winding is formed such that the convex winding configuration of the coil winding is on the inner peripheral side and the concave winding configuration is on the outer peripheral side and the other of the two types of winding configurations of the coil winding is formed such that the convex winding configuration of the coil winding is on the outer peripheral side and the concave winding configuration is on the inner peripheral side.

13. The electric rotating machine according to claim 12, wherein the coil windings are set to have a same number of turns for each of the plural divided cores.

14. The electric rotating machine according to claim 10, wherein a number of turns of the coil winding is alternately set to have a different number of turns for every adjacent divided core.

15. A manufacturing method for an armature of an electric rotating machine comprising:

providing an armature core having plural divided cores with a salient pole for each of the plural divided cores;

winding a coil wire around the salient pole of the plural divided core so as to form a convex winding configuration which is formed to project over a boundary line and to form a concave winding configuration which is formed to be hollow from the boundary line; and

winding a coil wire around the salient pole of adjacent divided cores so as to form a concave winding configuration which is formed to be hollow from the boundary line so as not to interfere with the convex winding configuration of the plural divided core and to form a convex winding configuration which is formed to project form the boundary line so as not to interfere with the concaved winding configuration of the plural divided core.

16. The manufacturing method according to claim 15, further comprising forming the plural divided cores in a separate structure such that the plural divided cores are divided in a circumferential direction by each salient pole.

17. The manufacturing method according to claim 15, further comprising providing a laminated core formed of magnetic plates laminated in a thickness direction to form the plural divided cores, wherein the convex winding configuration is projected over the boundary line which passes through abutting surfaces of the plural divided cores.

18. The manufacturing method according to claim 17, further comprising incorporating two types of winding configurations of the coil winding which are alternately different from each other for every adjacent divided core in a

circumferential direction.

19. The manufacturing method according to claim 18, further comprising incorporating one of the types of winding configurations of the winding coil formed such that the convex winding configuration of the coil winding is on an inner side and the concave winding configuration is on an outer side and the other of the two types of winding configurations of the coil winding is formed such that the convex winding configuration of the coil winding is on the outer side and the concave winding configuration is on the inner side.

20. The manufacturing method according to claim 19, further comprising setting the coil winding to have a same number of turns for each of the plural divided cores.